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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,361	11/13/2003	Michael A. Yandrasits	59387US002	1441
32692	7590	05/02/2006	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			MCCLENDON, SANZA L	
			ART UNIT	PAPER NUMBER

1711

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/712,361	<b>Applicant(s)</b> YANDRASITS ET AL.	
	<b>Examiner</b> Sanza L. McClendon	<b>Art Unit</b> 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 20-38 is/are rejected.
- 7) ☒ Claim(s) 18 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/1 and 24/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

1. In response to the Amendment received on February 13, 2006, the examiner has carefully considered the amendments.

### *Response to Arguments*

2. Applicant's arguments filed February 13, 2005 have been fully considered but they are not persuasive. Applicant appears to be arguing Asawa et al does not teach or suggest crosslinking said ion-exchange polymer using electron beam irradiation and the examiner's cited reference passages do not teach the former described method of cross-linking; therefore, Asawa et al does not anticipate the instantly claimed invention. The examiner agrees with applicant that the relied upon passage is not teaching a method for crosslinking the obtained ion-exchange polymer, but rather the polymerization method for obtaining the ion-exchange polymer. However, it is still deemed that Asawa et al teaches applicant's instantly claimed invention—see page 6 of applicant's translation of JP 54-052690 and page 12 of the patent office translation. Per these cited passages, Asawa et al teaches said crosslinking for the ion-exchange polymer can be "effected by well-known or lesser well-known methods...such as heat, ultraviolet rays, or radiation. Since, electron beam radiation is a well-known and accepted form of radiation used in crosslinking and polymerization. Therefore, the examiner deems that it would have been obvious for one of ordinary skill in the art at the time of the invention to use electron beam irradiation, as suggested by Asawa et al, to crosslink the fluoropolymer of the instant invention. The motivation would have been an reasonable expectation of quickly obtaining a fully crosslinked fluoropolymer membrane matrix without residual photoinitiator remaining in the membrane matrix, since photoinitiators are not required in radical initiation using electron beam radiation in the absence of evidence to the contrary and/or unexpected results. Therefore, claims 1-10, 13-15, 18-20, 23-25, 28-39, 42-49, 52-54, and 57-58 are still rejected under 35 USC 103(a) as being unpatentable over Asawa et al (JP 54/052690).

Regarding the 35 USC 102(b) rejections for claims 19-20, 23-25, 28-39, 42-49, 52-54, and 57-58 because the crosslinked polymers of these claims appear to be the same crosslinked polymer obtained in the reference. It has been upheld by the courts that where prior art discloses product that appears to be either identical with or only slightly different from product claimed in product-by-process claim; Patent Office can require applicant to prove that prior art products do not necessarily or inherently possess characteristics of his claimed product; whether rejection is based on "inherency" under 35 U.S.C. 102, on "prima facie obviousness" under 35 U.S.C. 103, jointly or alternatively, burden of proof is same; Patent

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Office that has reason to believe that functional limitation asserted to be critical for establishing novelty in claimed subject matter may, in fact, be inherent characteristic of prior art, possesses authority to require applicant to prove that subject matter shown to be in prior art does not possess characteristic relied on.

Claims 3-4, 8, 11, 14, 23, 27, and 30 have been added to the rejections below since they are deemed to be read in the reference.

***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-17, and 20-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asawa et al (JP 54-052690—translation by Applicant and PTO).

Asawa et al teaches improved fluorine-containing cation exchange membranes. Said membranes are obtained by casting and then crosslinking a fluoro-polymer using radiation. Said polymer is prepared by copolymerization of an iodine-containing vinyl-ether, a fluorinated olefin, and a fluorine-containing monomer having an ion exchange group or functional group convertible to an ion exchange group. Per the abstract general formulas for the iodine containing vinyl ether, fluorinated olefin, and the fluorine-containing monomer can be found, wherein the polymer obtained from copolymerization appear to read on the fluorinated fluoropolymer as described in instant claim 1. Asawa et al does not expressly teach using electron beam irradiation for crosslinking the polymer. However, Asawa et al teaches said crosslinking for the ion-exchange polymer can be "effected by well-known or lesser well-known methods...such as heat, ultraviolet rays, or radiation. Wherein, electron beam radiation would be considered a well-known method for initiating crosslinking. Therefore, the examiner deems that it would have been obvious for an ordinarily skilled artisan at the time of the invention to crosslink using electron beam irradiation. The motivation would have been a reasonable expectation of obtaining a crosslinked membrane without residual photoinitiator, which are known additives in radiation curing, in the final product in the absence of evidence to the contrary and/or unexpected results. Claims 3-4, 8, 11, 14, 23, 27 and 30 can be found on page 10. (PTO translation document).

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 20-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Asawa et al (JP 54-052690).

Asawa et al teaches improved fluorine-containing cation exchange membranes. Said membranes are obtained by casting and then crosslinking a fluoro-polymer using ionizing radiation—see page 11, wherein electron beam radiation is a well-known and accepted form of ionizing radiation. Said polymer is prepared by copolymerization of an iodine-containing vinyl-ether, a fluorinated olefin, and a fluorine-containing monomer having an ion exchange group or functional group convertible to an ion exchange group. Said membrane is formed by cast said monomer solution and crosslinking using radiation. Said crosslinked polymer and polymer electrolyte membranes appear to anticipate the instantly claimed polymer membranes. Since there is no functional limitation asserted to be critical for establishing novelty in the claimed subject matter, the examiner deems these appear to be the same polymer electrolyte membrane, since it has been recognized by the courts that where the prior art discloses product that appears to be either identical with or only slightly different from product claimed in product-by-process claim; Patent Office can require applicant to prove that prior art products do not necessarily or inherently possess characteristics of his claimed product.

#### ***Allowable Subject Matter***

7. Claims 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: Asawa et al taken alone or in combination does not teach imbining said polymer into a porous supporting matrix, such as a polytetrafluoroethylene web.

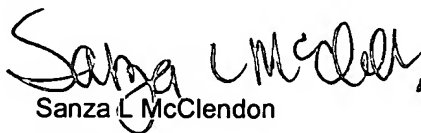
#### ***Conclusion***

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L. McClendon whose telephone number is (571) 272-1074. The examiner can normally be reached on Monday through Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 4/27/06  
Sanza L. McClendon  
Examiner  
Art Unit 1711

SMc